

Claims

1. An attachment for a router comprising columns along which a router cutting bit can be raised and lowered into the material to be worked so that the depth of cut can be controlled which attachment comprises a base plate for the router which is in two separable parts, the first part being adapted to support the router columns, and the second part adapted to interface with the workpiece.
2. An attachment as claimed in claim 1 in which the first part includes depth control means and/or means for removal of dust and debris and/or means for positioning and support to guide bushes.
3. An attachment as claimed in claim 1 or 2 in which the second part includes holding and support means to adjustable guides and trammels.
4. An attachment as claimed in any one of claims 1 to 3 in which the first part comprises an insert which can removably fit within an aperture in a sheet or plate and which insert has router column attachment means adapted to be attached to the router columns and a hole through which the router cutting bit can pass.
5. An attachment as claimed in any one of claims 1 to 4 in which the first part comprises an insert which can removably fit within an aperture in a sheet or plate and which insert has router column attachment means adapted to be attached to the router columns and a hole through which the router cutting bit can pass.
6. A router incorporating, modified by or having attached thereto an attachment as claimed in any one of claims 1 to 5.
7. An attachment as claimed in any one of claims 1 to 5 in which comprises (i) a first component which consists of a plate having an aperture in it, which plate is attachable to the router and (ii) a second component which comprises an insert which removably fits within the aperture in the first component and which has router column

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attachment means adapted to be attached to the router columns and which insert has a hole through which the router cutting bit can pass.

5 8. An attachment as claimed in claim 6 or 7 in which the insert has an inner section and an outer section with the inner section fitting within the aperture in the plate to form a tight fit and the outer section of the insert fitting over the upper surface of the plate.

10 9. An attachment as claimed in any one of claims 4 to 8 in which the aperture in the plate is in the form of a socket and the insert is a plug which fits within the socket.

10. An attachment as claimed in any one claims 4 to 9 in which the plate comprises a plate, sheet or board of any size with an aperture cut or formed within it.

15 11. An attachment as claimed in any one of claims 4 to 10 in which there is a rebate formed within the insert so that the lower part, closest in use to the workpiece, forms a plug and will pass through the aperture in the plate, which aperture forms a socket, to provide a tight fit, while the top larger section, being of greater width can be
20 positioned on or above the upper surface of the plate.

12. An attachment as claimed in claim 11 in which there is a further recess in the underside of the insert that allows a guide bush to be fitted within the recess when so required.

25 13. An attachment as claimed in any one of the preceding claims in which there is a router column attachment means which can be adapted to fit to different routers.

30 14. An attachment as claimed in any one of claims 4 to 13 in which the insert has holes formed in it and the router columns can be fixed within the holes.

15. An attachment as claimed in any one of claims 4 to 14 in which the first component is a sheet of board or other material which can be supported on supports

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or on a workbench with the router positioned beneath the board and attached to the board so the router operates upwards with the workpiece on the sheet or board above the router.

- 5 16. An attachment as claimed in any one of the preceding claims used in conjunction with a dovetailing jig or similar devices in which the plate is extended away from the operator and passes between the workpiece and an additional horizontal rail which can support the router beyond the edge of the jig so that, on entry into the jig, the router is maintained substantially in the correct plane.
- 10 17. An attachment as claimed in any one of claims 4 to 16 in which there is a shaped recess within the insert that forms a plenum chamber to aid in the removal of dust and debris and, at the bottom of which recess there is a hole through which the router bit can pass.
- 15 18. An attachment as claimed in claim 17 in which, in order to facilitate removal of debris formed by use of the router, there is an upwardly curving ramp leading away from the hole in the insert through which the router bit operates, and an outlet through which the debris will tend to be thrown by centrifugal force.
- 20 19. An attachment as claimed in claim 18 in which the outlet is positioned substantially tangentially to direction of rotation of the router bit.
- 25 20. An attachment as claimed in any one of claims 17 to 19 in which there is a flexible sealing ring of individual fibres anchored to a circular ring mounted within the plenum chamber in which each fibre is angled in the direction of the rotation of the router cutter so allowing the fibre to be deflected sideways when the cutter passes through the seal.
- 30 21. A router incorporating, modified by or having attached thereto an attachment as claimed in any one of claims 7 to 20.

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22. A method of making a sealing ring in which a ball of deformable material is placed within an inner ring and spaced apart from a larger ring by means of breakable spokes; fibre or wire is wound around the ring and the ball in a series of loops or turns to produce the desired density of fibre material, the wound ring is then placed in an injection moulding machine which simultaneously moulds an outer ring around the component to encapsulate and anchor the fibres, crush and rotate the ball thus breaking the temporary spokes, the fibres are then cut to form inner aperture and the inner ring and ball removed to obtain a flat sealing element.
23. A method as claimed in claim 22 in which the deformable material is an expanded plastic.
24. A method as claimed in claim 22 in which the deformable material is expanded polystyrene,
25. An attachment as claimed in claim 21 in which the ring is made by the method of any one of claims 22 to 24.
26. A depth control for attachment to a router which router comprises a router body and a base plate which depth control comprises a control bar attached to the base plate which can be moved relative to the base plate; the router body being able to slide relative to the control bar and the router body being lockable to the control bar so that, when locked to the control bar vertical adjustment of the control bar will adjust the depth of the router cut a corresponding amount.
27. A depth control as claimed in claim 26 in which the vertical adjustment of the control bar can be carried out from above or below the base plate.
28. A depth control as claimed in claim 26 or 27 in which the control bar has mounted on it (i) a bracket or collar attached to the router and which can slide up and down the control bar and is lockable to the control bar, (ii) a second collar which can

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slide along the control bar between the first collar and the base and which is lockable to the control bar.

- 5 29. A device for controlling the depth of cut of a router blade in a router as claimed in any one of claims 26 to 28, which router comprises a router body and a base plate which device comprises a control bar mountable on the router body which bar has an internal threaded section and which can be adjustably anchored to the router base by means of a threaded bolt or rod engaging the internal threaded section, and in which the vertical position of the control bar can be varied by turning the threaded bolt.
- 10 30. A device as claimed in claim 29 in which the threaded bolt or rod is turned at a lower assembly attached to the base, either by means of nut attached to the threaded bolt or rod at its lower assembly which can be turned by spanner from above or by means of a key or screw driver fitting into a socket or slot formed in the end of the
- 15 bolt or rod and turned from below
31. A device as claimed in claim 29 in which the threaded bolt or rod extends beyond the upper end of the control bar and is turned from its top by means of a knob at its
- 20 top.
32. A device as claimed in any one of claims 26 to 31 in which the control bar is prevented from turning with the threaded bolt or rod by an external keyway slot or by the cross section of the bar being non circular.
- 25 33. A router incorporating, modified by or having attached thereto a depth control as claimed in any one of claims 26 to 32.
34. A device for controlling in incremental steps the depth of cut in a router blade in a router which router comprises a router body and a base plate which device comprises
- 30 a hollow tube, bracket or cartridge around the outside of which is a series of incremental spiral steps.

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35. A device as claimed in claim 34 in which the tube, bracket or cartridge when incorporated in a router can control the depth of cut by movement of an engagement means attached to the router which can engage with the spiral steps.

5 36. A device as claimed in claim 35 in which the tube, bracket or cartridge can be rotatably mounted on a base plate of a router and there is an engagement means attached to the router which engages with the steps to prevent further downward movement of the router and cutter, so that, in use, rotation of the tube, bracket or cartridge causes the attachment means to move down the steps in incremental stages
10 and the router blade to move a corresponding distance downwards.

37. A device as claimed in any one of claims 35 or 36 in which the engagement means is a lug or bracket.

15 38. A device as claimed in claim 35 or 36 in which the tube, bracket or cartridge can be rotatably mounted on a bar attached to the router base.

39. A device for controlling in incremental steps the depth of cut of a router blade in a router, which router comprises a router body and a base plate, which device
20 comprises a hollow tube, cartridge or template around the outside of which is a spiral series of spaced apart incremental steps, which tube, cartridge or template can be rotatably mounted on a bar attached to the router base and held in position along the bar, there being a lug or bracket attached to the router which engages against the steps to prevent further downward movement of the router and cutter, so that, as the tube or
25 cartridge is turned the lug or bracket moves down the steps in incremental stages and the router blade moves a corresponding distance downwards.

40. A device as claimed in any one of claims 34 to 39 in which the cartridge or template is adjustable, with the height of at least some of the steps in the series of
30 spiral step being able to be varied in height.

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41. A device as claimed in any one of claims 34 to 40 in which the spiral series of steps are formed around the inside a larger diameter tube or container.

5 42. A device as claimed in any one of claims 26 to 32 incorporating the device of any one of claims 34 to 41 and in which the tube or cartridge is attached to the first collar and the lug bracket is attached to the second collar.

10 43. A router incorporating, modified by or having attached thereto a depth control as claimed in any one of claims 34 to 42.

44. A router as claimed in claim 43 in which the tube or cartridge is interchangeable.

15 45. A router as claimed in claim 43 or 44 which has a triple head turret arrangement in which there is a replaceable cartridge or template in place of the existing triple head turret arrangement .